

Learning Theories Summary

Learning Theory	Relevancy to Teaching
<p>Experiential Learning (Kolb)</p> <p>This theory combines experience, perception, cognition and behaviour. According to this theory, learning occurs through experiences. The theory's model of learning is a cycle that contains 4 stages:</p> <ol style="list-style-type: none"> 1) concrete experience – experience gained by the learner through an activity 2) reflective observation – the learner reflects on his/her experience 3) abstract conceptualization – the learner attempts to form ideas about what he/she observed during the experience 4) active experimentation – the learner plans a new experience 	<p>According to this theory, hands-on activities can be very useful to help students learn about and understand concepts. For example, students can learn about math concepts and their applications through the experience gained during field trips. Teachers can prepare activities that will guide the students' learning of new concepts.</p>
<p>Cognitive Theory of Multimedia Learning (Mayer)</p> <p>The theory has three main assumptions:</p> <ol style="list-style-type: none"> 1) Information is processed by 2 separate “channels” – auditory and visual 2) Each channel can only process a limited amount of information 3) Learning involves filtering, selecting, organizing and integrating information. <p>According to this theory, people make mental representations of information in order to make sense of it. The theory's “multimedia principle” states that “people learn more deeply from words and pictures than from words alone” (Mayer, p. 47).</p>	<p>If better learning occurs when multimedia is used, then it is important that a variety of tools are used to teach math concepts. It is not enough to just give direct verbal instruction. Students will learn better if the concepts are presented using a variety of formats. Teachers must also take care in preparing lessons that will not overload their students since only a limited amount of information can be processed.</p>
<p>ARCS Model of Motivational Design (Keller)</p> <p>According to this theory, learners can be motivated to learn through a 4 step process:</p> <ol style="list-style-type: none"> 1) Attention - gain the learners' interest by asking challenging questions to stimulate curiosity. Surprise or uncertainty can also be used to gain interest. 2) Relevance - make the content to be learned relevant to the learner 3) Confidence - help the learners stay motivated by providing objectives and prerequisites. Help the students to experience meaningful success. 4) Satisfaction - the learner must find the learning experience rewarding in some way <p>Methods of achieving student motivation include: using a variety of methods in presenting material, using humor, explaining the usefulness of the concepts, and providing feedback and reinforcement.</p>	<p>It is always a challenge to keep students motivated to learn. It can be especially difficult to motivate students to learn math which is often perceived as a difficult subject. This theory may be helpful to math teachers when planning lessons. By implementing the suggestions of the theory, students may become more motivated to learn.</p>

<p>Affordance Theory (Gibson)</p> <p>This theory is about visual perception and how it drives action. Gibson defines “affordances” as clues in the environment for a possible action. According to Gibson, people directly perceive the possibility of an action for an object. He proposes that sensory processing is not necessary for a person to perceive the possibility of an action. Some examples of affordances are buttons that can be pushed and door handles that can be turned. This theory has implications for the way items are designed. A well designed item has explicit affordances.</p>	<p>How visual perception drives action may influence a teacher when choosing manipulatives and learning tools. As a teacher, I would try to choose tools that are user-friendly and which can be used intuitively. More time can then be spent on learning the math concepts rather than on learning how to use the tool.</p>
<p>Social Learning Theory (Bandura)</p> <p>According to this theory, people learn from each other through observation, imitation and modelling. Bandura proposes that what people learn influences their behaviour. Their behaviour then has an influence on their environment.</p>	<p>This theory helps us understand why a positive classroom environment is important. A positive environment promotes positive behaviour. There may also be implications for student attitudes towards subjects such as math. If students observe that others in their environment dislike and avoid math, they too may develop a similar attitude towards the subject. Teachers need to promote a positive math learning environment.</p>

